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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,814	10/27/2003	John C. Pan	MR929-930	9688
4586	7590	06/01/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			SAWHNEY, HARGOBIND S	
			ART UNIT	PAPER NUMBER

2875

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,814

Applicant(s)

PAN ET AL.

Examiner

Hargobind S. Sawhney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following claimed matters must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

- Claim 8, line 2, "a diffuser sheet mounted on top of the diffuser plate;
- Claim 9, line 2, "a prism sheet mounted on top of the diffuser sheet";
- Claim 11, lines 1 and 2, "each inclined face being concave"; and
- Claim 12, lines 1 and 2, "each inclined face being convex".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 7-10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsieh et al. (US Patent Application Pub. No.: (US 2004/0062034 a1), hereinafter referred as Hsieh.

Regarding Claims 1-4, 7-10 and 13, Hsieh discloses an illuminating backlight system 100 (Figure 4) comprising:

- a case 140 having a front opening – bearing element 110 (Figure 4) – as a light emitting face and a frame- including base and peripheral walls – (Figure 4, Para. 0024);
- light-emitting sources 150 mounted inside the case 140, and the light source aligned with the back (Figure 4, Para. 24);
- at least one brighter region – the region between light rays A' and B' (Figure 4, Para. 0036) - immediately in front of the light emitting source

- 150; and at least one dimmer region – the region between light rays B' and C' (Figure 4, Para. 0036) away from the light source 150;
- a reflective layer 144 (Figure 4, Para. 0036) formed on the back, and the reflective layer 144 including multiple reflective protrusions 147 and 143 formed integrally – structurally secured with mechanical or chemical fasteners - (Figure 4, Para. 0036);
 - each of the reflective surfaces 143 and 147 including at least one inclined flat face (Figure 3, Para. 0019);
 - the reflective protrusions 143 corresponding to each of the light emitting sources 150 (Figure 4);
 - at least one of the inclined face of the reflective protrusion 147 reflecting light onto the at least one dimmer region receiving light rays D' (Figure 1, Para. 0036);
 - each of the reflective light protrusions 143 having two inclined faces and a salient adjacent to a light emitting source 150 (Figure 4); the light source 150 being a straight lamp (Figure 4, 0036);
 - a diffuser plate 110 mounted at the front opening of the casing 140 (Figure 4, Para. 0024);
 - a diffuser sheet 130 mounted on top of the diffuser plate 110 (Claim 12);
and
 - a prism sheet 120 mounted on top of the diffuser plate 110 (Figure 4, Para. 0024).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh et al. (US Patent Application Pub. No.: US 2004/0062034 A1), hereinafter referred as Hsieh, in view of Ohashi et al. (Japanese Patent No.: JP 08095039 A) hereinafter referred as Ohashi.

Regarding claims 5 and 6, Hsieh discloses an illuminating backlight system 100 (Figure 4) comprising a straight light tube as a light source mounted inside the case. However, Hsieh does not teach an illuminating backlight system including either a U-shaped or a W-shaped light tube operating as the light source for the device.

On the other hand, Ohashi discloses an illuminating backlight system including either a U-shaped light tube or a W-shaped light tube (Figure 4, English translated abstract).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the illuminating backlight system if Hsieh by providing A U-shaped or a W-shaped light tube as taught by Ohashi for the benefits or advantages of compactness and improved fluorescent tube operational characteristics.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over

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Hsieh et al. (US Patent Application Pub. No.: US 2004/0062034 A1), hereinafter referred as Hsieh, in view of Mephram et al. (US patent No.: 5,253,151).

Regarding Claim 11, Hsieh discloses an illuminating backlight system 100 (Figure 4) comprising a reflective layer including multiple reflective protrusions each with inclined flat faces. However, Hsieh does not specifically teach each of the reflective protrusions having concave inclined face.

On the other hand, Mephram et al. ('151) discloses a backlight luminaire (Figure 6) comprising a reflector 22 having a plurality of reflectors each having a protrusion including concave inclined faces (Figure 6, column 5, lines 5-19).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the illuminating backlight system if Hsieh by providing the reflector with a protrusion and inclined concave faces as taught by Mephram et al. ('151) for the benefits and advantages of efficient projection of light to the display unit.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh et al. (US Patent Application Pub. No.: US 2004/0062034 A1), hereinafter referred as Hsieh, in view of Dellano (US patent No.: 3,829,677).

Regarding Claim 12, Hsieh discloses an illuminating backlight system 100 (Figure 4) comprising a reflective layer including multiple reflective protrusions each with inclined flat faces. However, Hsieh does not specifically teach each of the reflective protrusions having convex inclined face.

On the other hand, Dellano ('677) discloses a luminaire (Figures 4 and 5) comprising a plurality of reflectors 10 each including each having a protrusion including

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14 including a pair- on right and left inclined sides adjacent to the light source - of convex inclined faces (Figure 5, column 2, lines 12-18).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the illuminating backlight system if Hsieh by providing the reflector with a protrusion and inclined concave faces as taught by Mephram et al. ('151) for the benefits and advantages of highly efficient projection of light to the display unit.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yu et al. (U.S. Patent Application Pub. No. US 2004/0239829 A1), Morishita et al. (U.S. Patent No. 6,654,088 B2), Blanchard (U.S. Patent No. 6,626,562 B2), Chiou (U.S. Patent Application Pub. No. US 2003/0156234 A1), Matsui (U.S. Patent Application Pub. No. US 2002/0039292 A1), Tanada (U.S. Patent No. 6,199,992 B1), Edwards, Jr. (U.S. Patent No. 6,092,913), Bernard (U.S. Patent No. 5,986,728), Katoh et al. (U.S. Patent No. 5,420,771), Hasagawa (U.S. Patent No. 5,134,553), Lewin (U.S. Patent No. 4,388,675) and Ruud (U.S. Patent No. 4,344,111)

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S. Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 6:15 - 2:45.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571 272 2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HSS

5/26/05


Stephen Husar
Primary Examiner